

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
1 September 2005 (01.09.2005)

PCT

(10) International Publication Number
WO 2005/080670 A1

(51) International Patent Classification⁷: **D21B 1/12**,
D06M 11/30, 11/50, 11/82, D21H 13/34, C08L 89/04,
C08H 1/06, C08J 3/12

Poortersveld 727, NL-7327 AS Apeldoorn (NL). **HUI-
JSER, Willem** [NL/NL]; Gein 34, NL-3068 GJ Rotterdam
(NL).

(21) International Application Number:
PCT/NL2005/000118

(74) Agent: **WINCKELS, J.H.F.**; Johan de Wittlaan 7,
NL-2517 JR Den Haag (NL).

(22) International Filing Date: 18 February 2005 (18.02.2005)

(81) Designated States (*unless otherwise indicated, for every
kind of national protection available*): AE, AG, AL, AM,
AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN,
CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI,
GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE,
KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD,
MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG,
PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM,
TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM,
ZW.

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
04075540.7 19 February 2004 (19.02.2004) EP

(84) Designated States (*unless otherwise indicated, for every
kind of regional protection available*): ARIPO (BW, GH,
GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM,
ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),
European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI,
FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO,
SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN,
GQ, GW, ML, MR, NE, SN, TD, TG).

(71) Applicant (*for all designated States except US*): **NED-
ERLANDSE ORGANISATIE VOOR TOEGEPAST-
NATUURWETENSCHAPPELIJK ONDERZOEK
TNO** [NL/NL]; Schoemakerstraat 97, NL-2628 VK Delft
(NL).

(72) Inventors; and

(75) Inventors/Applicants (*for US only*): **SLAGHEK,**
Theodoor, Maximiliaan [NL/NL]; Schansweg 35,
NL-3042 HT Rotterdam (NL). **VAN WANDELEN,**
Mario, Tarcisius, Raymundus [NL/NL]; Rooseveltlaan
14, NL-3705 PG Zeist (NL). **DROST, Willem, Cornelis**
[NL/NL]; Van Reenenweg 94, NL-3702 SM Zeist (NL).
LO CASCIO, Dario, Maria, Rosario [—/NL]; Boom-
valk 17, NL-1191 SB Ouderkerk aan de Amstel (NL).
VAN WILLIGE, Remco, Willem, Godefridus [NL/NL];

Published:

- with international search report
- before the expiration of the time limit for amending the
claims and to be republished in the event of receipt of
amendments

*For two-letter codes and other abbreviations, refer to the "Guid-
ance Notes on Codes and Abbreviations" appearing at the begin-
ning of each regular issue of the PCT Gazette.*

(54) Title: USE OF A PARTICULATE MATERIAL DERIVED FROM MAMMALIAN HAIR IN THE PREPARATION OF PA-
PER OR PAPERBOARD PRODUCTS

(57) Abstract: The invention relates to the use of a particulate material derived from mammalian hair in the preparation of a paper
or paperboard product, which particulate material has been prepared by means of a process, which comprises the following steps:
(a) subjecting mammalian hair to an oxidation treatment in which the hair is contacted with a solution, which comprises a bleaching
agent; (b) separating the oxidised hair from the solution; (c) drying the separated hair; and (d) subjecting the dried hair to a treatment
in which the hair is formed into a particulate material having an average particle size in the range of from 0.5 to 4 mm. The invention
further relates to a paper or paperboard product, or paper pulp comprising said particulate material.



WO 2005/080670 A1